



ENVIRONMENTAL  
RESTORATION, LLC

ERRS REGION 8, CONTRACT 68-W-01-053  
SITE SAFETY PLAN  
TASK ORDER 0042

Date: April 14, 2004

Project Name: Vermiculite Intermountain  
Salt Lake City, Utah  
Region VIII

ER Job #: VI8-42

ERRS Task Order #: 0042

Reviewed By: \_\_\_\_\_  
USEPA Region VIII OSC

Date: \_\_\_\_\_

Adopted By: \_\_\_\_\_  
ER Response Manager

Date: \_\_\_\_\_

Adopted By: \_\_\_\_\_  
ER Health and Safety Manager

Date: \_\_\_\_\_



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**MANDATORY ATTACHMENTS**

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#### GLOSSARY OF ACRONYMS

ANSI	- AMERICAN NATIONAL STANDARDS INSTITUTE
APR	- AIR PURIFYING RESPIRATOR
ACGIH	- AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
CFR	- CODE OF FEDERAL REGULATIONS
CGI	- COMBUSTIBLE GAS INDICATOR
CLEAN ZONE	- SUPPORT ZONE
CSEP	- CONFINED SPACE ENTRY PERMIT
DECON	- DECONTAMINATION
HNU-PID	- HNU PHOTOIONIZATION DETECTOR
HOT ZONE	- EXCLUSION ZONE
IAW	- IN ACCORDANCE WITH
IDLH	- IMMEDIATELY DANGEROUS TO LIFE & HEALTH
MREM/hr	- MILLI-ROENTGENS EQUIVALENT IN MAN PER HOUR
NIOSH	- NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY & HEALTH
OSHA	- OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION LIMIT
OVA	- ORGANIC VAPOR ANALYZER
PAPR	- POWERED AIR PURIFYING RESPIRATORS
PEL	- PERMISSIBLE EXPOSURE LIMIT
PPM	- PARTS PER MILLION
RM	- PROJECT MANAGER
SCBA	- SELF-CONTAINED BREATHING APPARATUS
SOP	- STANDARD OPERATING PROCEDURE
SPCC	- SPILL PREVENTION CONTROLS & COUNTERMEASURES
TLV	- THRESHOLD LIMIT VALUE
TWA	- TIME WEIGHTED AVERAGE
U.S. EPA	- U.S. ENVIRONMENTAL PROTECTION AGENCY



## 1.0 INTRODUCTION AND SITE ENTRY REQUIREMENTS

This document describes the health and safety guidelines developed for the Vermiculite Insulation Clean up Site, to protect on-site personnel, visitors, and the public from physical harm and exposure to hazardous materials or wastes. The procedures and guidelines contained herein were based upon the best available information at the time of the plan's preparation. Specific requirements will be revised when new information is received or conditions change. A written amendment will document all changes made to the plan. Any amendments to this plan will be included in Attachment A. Where appropriate, specific OSHA standards or other guidance will be cited and applied.

All work practices and procedures implemented on site must be designated to minimize worker contact with hazardous materials and to reduce the possibility of physical injury. All work will be performed in accordance with applicable Federal 29CFR 1910 and 1926 Health and Safety Regulations and the Federal 29CFR 1910.120 Hazardous Waste Site Safety Regulations.

### 1.1 Daily Safety Meetings

Daily safety meetings will be held at the start of each shift to ensure that all personnel understand site conditions and operating procedures, to ensure that personal protective equipment is being used correctly and to address worker health and safety concerns.

### 1.2 Site Safety Plan Acceptance Acknowledgment

The Response Manager shall be responsible for informing all individuals entering the exclusion zone or decontamination zone of the contents of this plan and ensuring that each person signs the Safety Plan Acknowledgment Form in Attachment Z. By signing the Safety Plan Acknowledgment Form, individuals are recognizing the potential hazards present on-site and the policies and procedures required to minimize exposure or adverse effects of these hazards.

### 1.3 Key Personnel

Remediation Project Manager	Floyd Nichols, Craig Myers
Technical Assistance Team	CDM
ERRS Contractor:	Environmental Restoration L.L.C. 16294 Westwoods Business Park St. Louis, Missouri 63021
Response Manager:	Byron Hartman
Site Safety Officer	Kyle Dittmer
Safety Manager:	Lonnie Wright
Site Key Personal	Dave Mangiaracino John Hall Merrill Taylor

## 2.0 ROLES AND RESPONSIBILITIES

### 2.1 Response Manager (RM): Byron Hartman

The Response Manager, as the field representative for ERLLC and its subcontractors, has the responsibility for fulfilling the terms of the contract. The RM must oversee the project and ensure that all technical, regulatory and safety requirements are met. The Response Manager is the on site Health and Safety Officer (HSO). The Response Manager is responsible for the duties listed in Section 2.2.



2.2 Site Health and Safety Officer (HSO): Kyle Dittmer

The ERLLC Site Safety Officer will be assigned to the site on a part-time basis with functional responsibility for implementing the Site Health and Safety Plan as it applies to ERLLC personnel.

Specific Duties Include:

- a. Assist RM implement and enforce this HASP.
- b. Supervise confined space entries.
- c. Document and assist in resolving safety issues.
- d. Ensure proper decontamination of personnel and equipment.
- e. Ensure that monitoring equipment is calibrated / operational.
- f. Ensure CDM conducts personal air monitoring on all employees as outlined in 29CFR 1910.120(h)(4) where needed.
- g. Perform respiratory fit tests.
- h. Inventory/inspect PPE prior to personnel entries.
- i. Will post all data of personal air sampling results.
- j. Select protective equipment levels based upon chemical properties, method of contact and air sample results.
- k. Insure all personnel are fit for duty.
- l. Competent person for excavation/trench entry jobs.
- m. Inspect first aid kits/fire extinguishers/SCBA.

2.3 Key Personnel: Dave Mangiaracino, Merrill Taylor, John Hall

The foreman will be responsible to implement the Health Safety plan in the field on a daily basis. The foreman will be working directly with the labor force and supervising the entire field task.

2.4 Heavy Equipment Operators:

The operators are responsible for safety in and around the equipment they are operating. They are to assure there are no children present in the immediate work zones. They are to know and follow the H&S plan in proper care and operating of their equipment.

2.5 Truck Drivers:

The truck drivers are responsible in keeping their trucks safe and operating them safely on the public roadways. It is the driver's responsibility to notify his/her immediate supervisor of safety issues with their vehicle.

2.6 Laborers:

The laborers are to assist all tasks on site to assure a safe working environment. Things such as directing traffic, making operators aware of other equipment locations, spotting vehicles as required and making any required changes to ensure a safe work environment.

**Any persons who observe safety problems should immediately report observations/concerns to appropriate key personnel listed in Section 2.1, 2.2 or 2.3 above.**



### **3.0 SITE BACKGROUND AND SCOPE OF WORK**

#### **3.1 Site Background**

Vermiculite Intermountain located on the west side of downtown Salt Lake City is one of many facilities which received vermiculite ore from the Libby Mine in Montana. The Vermiculite Intermountain facility received ore from Libby, Montana by rail, for further processing, from 1940 until the early 1980's. The processing operations were moved to another site several blocks away in the 1980's. The ore was processed into exfoliated vermiculite for retail and wholesale distribution of Zonolite insulation, concrete aggregate, fireproofing and other products. Exfoliated vermiculite is created when the vermiculite is dry heated in a furnace until the water within the layers of vermiculite evaporates causing the vermiculite to expand creating a lighter, "popcorn-like material. This Exfoliated vermiculite can then be used for a variety of purposes such as home and building insulation, as well as horticultural purposes.

The boundaries of the Vermiculite Intermountain location have changed over time and currently consist of the Utah Power and Light 300 West substation, a commercial parking lot and small businesses. The area surrounding these boundaries has undergone extensive redevelopment. The area north of the location is currently the Delta Center, and the area west of the location is the Gateway shopping center. A former Vermiculite Intermountain employee has stated that the majority of processing building was located on the site now owned by Utah Power and Light. Gravel and fill have been placed in and around the substation and the facility is secured at all times.

During walkthrough inspections, vermiculite and stoner rock similar to that found at other processing facilities could be seen on the ground surface in several locations. Analysis of ground surface material has found that percent levels of Libby amphibole (LA) remain in the subsurface of the Utah Power and Light substation. LA is a classification for the Libby Asbestos Project which includes a series of amphiboles, one of which is tremolite asbestos. Further testing was performed at adjacent facilities to determine the extent of contamination. Testing was performed at surrounding properties of the substation (Artistic printing, Frank Edwards Building, LaQuinta parking lot, and Utah Paper Box). Sampling consisted of dust, ambient air, personal air, composite soil, and grab. Analysis of the samples showed a need for remediation efforts of the Artistic Printing building, UPL switch house (brick building) and soils at and surrounding the properties. This Approach Plan is for the detailed cleaning of the Artistic Printing building.

#### **3.2 Scope of Work for ERLLC**

- 1) Removal of asbestos contaminated dust from work, office and crawl spaces
- 2) Removal or cleaning of equipment and/or personal items contaminated with asbestos
- 3) Removal of other asbestos contamination per OSC.

### **4.0 TASK SAFETY AND HEALTH RISK ANALYSIS**

#### **4.1 Task Specific Hazards and Controls**

This section is to be addressed in the daily tool box safety meeting as each task is to be attempted. Each Task-Specific Safety Assessment is designed to develop awareness to chemical and physical hazards specific to each task. It would be impractical to repeat in complete detail each control measure and SOP for each job task. Sources and Hazards will be addressed for each job task with reference made to applicable control measures in Sections 4.2, 4.3 and SOP's. The tables in Section 4.2 and 4.3 should be posted in the break area and command post. When the Task-Specific Safety Assessment is discussed additional hazards may need to be addressed.



TASK SPECIFIC SAFETY ASSESSMENT

JOB TASK: Interior decontamination			
PERSONAL PROTECTIVE EQUIPMENT: Level C			
HAZARD	SOURCES	CONTROL MEASURES	REF.
Asbestosis, Mesothelioma	Asbestos contamination	Properly trained personnel Negative air pressure containment Engineering controls – Use of wet methods Level C PPE Proper decontamination of personnel and equip.	Work Plan HS-26 HS-8
Small Equipment	Drills, Saws	Experienced Operators Controlled Work Areas	Sect 4.3
Electrocution	Outlets, power tools	GFCI Inspect cords daily and prior to each use Cover outlets	Sect. 4.3 HS-12 HS-23
Noise	Vacuums, Negative air machines, Printing presses	Wear proper hearing protection	Sect 4.3 HS-16
Heat Stress	Working in protective suits	Follow ACGIH Guidelines Drink plenty of fluids Allow for adequate breaks	Sect. 4.3 HS-17
Topography Slip/trip/fall	Ramps, Crawl Spaces, Slopes	Keep area organized Identify/mark hazards	Sect 4.3
Wildlife	Insect/Spiders	Beware of and Avoid contact	Sect 4.3
Ergonomics	Lifting and bending	Buddy system Proper lifting and bending	Sect 4.3
Punctures	Sharp Objects	Beware of sharp objects Use Leather palm gloves, if necessary	Sect 4.3

4.2 Chemical Hazards

CHEMICAL	TLV/PEL/ IDLH	PHYSICAL CHARACTERISTICS	ODOR THRESHOLD	ROUTES OF EXPOSURE	PPE POLYMERS	SYMPTOMS ACUTE/CHRONIC	FIRST AID
Asbestos	PEL-0.1 f/cc, Excursion 1.0 f/cc	Gray-green fibrous solid	N/A	Inhalation, ingestion	Tyvek/ Kleengard	Asbestosis, Restricted Pulmonary function, irritated eyes	Move to fresh air, wash with soap and water
Gasoline	None 300 ppm	Clear liquid w/ characteristic odor	N/A	Inhalation, Contact	Nitrile; Avoid contact	Irritation; dizziness; Potential Carcinogen	Fresh air; Flush with Water
Diesel Fuel	None	Clear/light yellow liquid; aromatic odor	N/A	Inhalation, Contact	Nitrile; Avoid contact	Irritation; dizziness;	Fresh air; Flush with Water
Diesel Exhaust	None 0.02 mg/m <sup>3</sup>	Dark Aerosol Particulate	N/A	Inhalation	Avoid inhalation	Potential Carcinogen; Irritation	Fresh air

The above listing should not be taken as a complete assessment of the hazards posed by materials at the Vermiculite Insulation Clean up Site. Therefore, personnel must be alert for symptoms of possible exposure such as unusual smells, stinging, burning eyes, nose and throat, skin irritation, as well as depressed, sleepy or tired. Symptoms must be immediately reported to the site supervisor.

See Attachment C for Chemical Hazard Information and MSDS'.



#### 4.3 Physical Hazards

##### PHYSICAL/ENVIRONMENTAL HAZARD ANALYSIS

HAZARD	PRE PLANNING TO CONTROL HAZARD	ACTIVE CONTROL MEASURES
Heat Stress	<ol style="list-style-type: none"><li>1. Anticipate possible high temperatures (summer months).</li><li>2. Be aware of heat stress symptoms, quit sweating, pale, clammy skin, dizziness</li></ol>	<ol style="list-style-type: none"><li>1. Cool break area.</li><li>2. Drink water.</li><li>3. Buddy system/awareness.</li><li>4. First aid on site.</li><li>5. Medical care if symptoms persist.</li></ol>
Cold Stress	<ol style="list-style-type: none"><li>1. Anticipate possible low temperatures (winter months).</li><li>2. Remember the temperature does not have to be below freezing to have a cold stress situation.</li></ol>	<ol style="list-style-type: none"><li>1. Warm break area.</li><li>2. Warm decaffeinated drinks.</li><li>3. Buddy system/awareness.</li><li>4. First aid on site.</li><li>5. Medical care if symptoms persist.</li></ol>
Electrical	<ol style="list-style-type: none"><li>1. Locate and mark existing energized lines.</li><li>2. De-energize lines if necessary to perform work safely.</li><li>3. All electrical circuits will be grounded.</li><li>4. All 120 volt single phase which are not a part of the permanent wiring will have a ground-fault interrupter in place.</li><li>5. Temporary wiring will be guarded, buried or isolated by elevation to prevent accidental contact by personnel or equipment.</li><li>6. Evaluate potential for high moisture/standing water areas and define special electrical wiring needs-typically requirement for low voltage lighting systems.</li></ol>	<ol style="list-style-type: none"><li>1. Utilized Certified Electrical Contractor for any new or temporary electrical construction.</li><li>2. Ensure electrical equipment/material meet all local, state and federal code and specifications</li></ol>
Ergonomic	<ol style="list-style-type: none"><li>1. All operations evaluated for ergonomic impact.</li><li>2. Procedures written to define limits of lifting, pulling, etc.</li><li>3. Procedures to define how personnel will utilize proper ergonomic concepts and utilize mechanical material handling equipment.</li><li>4. Necessary mechanical material handling equipment specified and ordered for project.</li></ol>	<ol style="list-style-type: none"><li>1. Proper body mechanics techniques stressed and enforced on a daily basis.</li><li>2. Mechanical handling equipment maintained and utilized.</li><li>3. Proper body mechanics stressed in scheduled safety meetings.</li><li>4. Injuries reported and medically treated if in doubt about severity.</li><li>5. Operations changed as necessary based on injury experience or potential.</li></ol>
Existing Site Topography	<ol style="list-style-type: none"><li>1. Survey site prior to layout. Identify areas unsafe for personnel or equipment due to physical conditions.</li><li>2. Identify/locate existing utilities.</li><li>3. Determine impact of site operations on surrounding properties, communities, etc.</li><li>4. Identify mechanized equipment routes both on site and onto and off the site.</li><li>5. Layout site into exclusion and contamination reduction zones based on initial site evaluation.</li></ol>	<ol style="list-style-type: none"><li>1. Awareness to work environment - regular inspection/audits to identify changing conditions.</li><li>2. Shut down operations when unknown conditions encountered.</li></ol>
Heavy Equipment Operation	<ol style="list-style-type: none"><li>1. Define equipment routes and traffic patterns for site.</li><li>2. Insure that operators are properly trained on equipment operation for all equipment required on project.</li><li>3. Define safety equipment requirements, including back up alarm and roll over, for all equipment on site.</li><li>4. Implement SOP of requiring operators to safety inspect equipment on a daily basis in accordance with manufacturer requirements.</li><li>6. Evaluate project requirements to ensure that equipment of adequate capacity is specified.</li></ol>	<ol style="list-style-type: none"><li>1. Equipment inspected as required. Equipment repaired or taken out of service.</li><li>2. Ground spotters are assigned to work with equipment operators. Utilize standard hand signals and communication protocols.</li><li>3. Personnel wear the proper PPE, utilize hearing protection, gloves for handling rigging, etc.</li><li>4. Equipment safety procedures discussed at daily scheduled safety meetings.</li><li>5. Personnel do not exceed lifting capacities, load limits, etc. for equipment in question.</li><li>6. Personnel follow basic SOP's which prohibit passengers on equipment, activating brakes and grounding buckets, securing loads prior to movement, etc.</li></ol>



**PHYSICAL/ENVIRONMENTAL HAZARD ANALYSIS**

HAZARD	PRE PLANNING TO CONTROL HAZARD	ACTIVE CONTROL MEASURES
Noise	<ol style="list-style-type: none"> <li>1. Local community noise standards examined.</li> <li>2. Expected loud operations evaluated to determine compliance with community standards.</li> <li>3. Loud operations scheduled for approved time periods.</li> <li>4. Noise level standards established for equipment brought onto site.</li> <li>5. Hearing protection requirements defined for personnel expected to have excessive exposures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Personnel receive annual audiogram.</li> <li>2. Personnel required to wear hearing protection.</li> <li>3. Routine noise level monitoring and dosimetry performed.</li> <li>4. Defective equipment repaired as needed.</li> <li>5. Ongoing hearing conservation education promoted at scheduled safety meetings.</li> <li>6. Medical evaluation following noise (impact) exposure if symptoms present themselves.</li> </ol>
Personal Injuries	<ol style="list-style-type: none"> <li>1. Site operations will be evaluated for exposures with serious injury potential such as falling objects, pinch points, flying objects, falls from elevated surfaces, etc.</li> <li>2. A written Fall Prevention Program will be developed if workers will be required to work at heights greater than 10 feet from unguarded work locations.</li> <li>3. PPE requirements will be based on potential for injury.</li> </ol>	<ol style="list-style-type: none"> <li>1. Personnel will wear required PPE.</li> <li>2. Specialized equipment such as rope grabs, winches, etc. will be inspected prior to each use. Defective equipment will be immediately replaced.</li> <li>3. All injury and near miss incidents will be reported to the HSO.</li> <li>4. First aid/CPR trained person on site at all times.</li> <li>5. All injuries will be treated on site with advanced medical treatment being sought if doubt about severity.</li> </ol>
Small Equipment Usage	<ol style="list-style-type: none"> <li>1. Site operations evaluated to determine need for specialized intrinsically safe, explosion-proof and UL approved equipment and instruments.</li> <li>2. Implement requirement for G.F.I., double insulated tool usage, or assured grounding program in all outdoor operations, will be utilized.</li> <li>3. Specify equipment needs to ensure that equipment used only for the purpose for which it is designed and to prevent abuse or misuse of the equipment.</li> <li>4. Specify requirements for the inspections and maintenance of specialized equipment.</li> <li>5. Specify that all equipment utilized on the project meets all OSHA requirements.</li> </ol>	<ol style="list-style-type: none"> <li>1. First aid on site.</li> <li>2. Transport for medical care if necessary.</li> </ol>
Wildlife	<ol style="list-style-type: none"> <li>1. Inspect work environment where tasks are being performed.</li> <li>2. Awareness to bites.</li> <li>3. Dogs, animals, poison ivy, etc.</li> </ol>	<ol style="list-style-type: none"> <li>1. First aid on site.</li> <li>2. Seek medical attention if symptoms-signs</li> </ol>
Trenching and Excavation	<ol style="list-style-type: none"> <li>1. Implement ERLLC excavation procedures if entry required into any excavation greater than 4 feet depth.</li> <li>2. Specify that Competent Person(s) assigned to project be present at all times personnel inside trench(s).</li> <li>3. Specify that a Professional Engineer design specialized shoring systems for those that are extremely deep.</li> <li>4. Specify special PPE and monitoring requirements for excavations in soils contaminated with hazardous materials or gases and vapors.</li> <li>5. Ensure excavations comply with 29CFR 1926, Subpart P.</li> </ol>	<ol style="list-style-type: none"> <li>1. Competent person in the immediate area at all times that personnel are required to enter trenches.</li> <li>2. Operations shut down if the excavation shows any sign of cave in, excessive water, unacceptable levels of toxic contaminants, changing weather, or shoring systems have visible defects.</li> <li>3. Equipment operators keep all personnel inside excavation in sight. No suspended loads or movement of buckets over personnel.</li> <li>4. Regular monitoring is performed in excavations where toxic gases or vapors are possible.</li> </ol>



PHYSICAL/ENVIRONMENTAL HAZARD ANALYSIS

HAZARD	PRE PLANNING TO CONTROL HAZARD	ACTIVE CONTROL MEASURES
Weather Conditions	<ol style="list-style-type: none"><li>1. Evaluate prevailing weather conditions for the site.</li><li>2. Contingency plans developed for likely severe weather conditions such as tornado, and extreme thunderstorm.</li><li>3. Provide for daily weather forecast service in extreme weather areas.</li><li>4. Plan to weatherize safety systems, such as showers and eye washes, that would be impacted by extreme cold weather.</li><li>5. Order necessary specialized cold weather clothing.</li><li>6. Grounding and bonding requirements defined for thunderstorm areas.</li><li>7. Sheltered air conditioned break areas provided for extreme hot and cold weather zones.</li></ol>	<ol style="list-style-type: none"><li>1. Employees trained in contingency plan for severe weather conditions.</li><li>2. Emergency water sources inspected regularly in cold areas.</li><li>3. Weather service contacted regularly during storm conditions.</li><li>4. Supervisory personnel cease operations during extreme storm conditions (i.e., thunderstorms). Personnel evacuate to safe assembly area.</li></ol>

5.0 PERSONNEL TRAINING

5.1 Initial Training

- a. 40 Hour HAZWOPER Training  
All field employees receive forty hours of classroom training on safe work practices and hazardous waste sites.
- b. 40 Hour Asbestos Worker Training  
All field employees receive forty hours of classroom training on safe work practices and asbestos sites.
- c. Supervisor/Managers  
Manager and Supervisors receive eight hours of training on safe management of hazardous waste and asbestos sites. All training complies with 29CFR 1910.120 and 29 CFR 1910.1001.

The following individuals are Site Supervisors:

- [1] Byron Hartman
- [2] Dave Mangiaracino
- [3] Merrill Taylor
- [4] John Hall

5.2 Site Specific Training

1. All assigned personnel will receive site specific training (review of this document) on routes of exposure and adverse health effects associated with the chemicals listed on the 4.2 Chemical Hazards or on MSDS
2. At least one member of each work crew shall have training in the use of portable fire extinguishers in accordance with 29CFR 1910.157G.
3. In accordance with 29CFR 1910.120, all personnel newly assigned to hazardous waste work will receive 3 days of on the job training by an experienced supervisor. This typically is achieved by coordinating the work schedule so that they perform 25% of the expected workload the first day, 50% the second day, and 75% the third day.



- 5.3 Annual Refresher. All field employees receive eight hours of refresher training on the above topics within the anniversary date of their initial 40 hour class.
- 5.4 First Aid/CPR. All field supervisors receive first aid training. Treatment limited to Good Samaritan/minor first aid. All traumatic/major first aid and cardiac problems will be referred to medical facilities.
- 5.5 Subcontractor Requirements. All subcontractors entering the contamination reduction zone and exclusion zone will have adequate training satisfying 29 CFR 1910.120.

## 6.0 PERSONAL PROTECTIVE EQUIPMENT

The following is a brief description of the personal protective equipment which may be required during various phases of the project. The U.S. EPA terminology for protective equipment will be used; Levels A, B, C and D.

Respiratory protective equipment shall be NIOSH-approved and use shall conform to OSHA 29 CFR Part 1910.134 Requirements. Each employer shall maintain a written respirator program detailing selection, use, cleaning, maintenance and storage of respiratory protective equipment. The written Respirator Program will be maintained at the local and regional offices. Level C protection as outlined in 6.3.1 will be used for interior cleaning operations.

### 6.1 Level A Protection

- The extremely hazardous substance requires the highest level of protection for skin, eyes and the respiratory system;
- Substances with a high degree of hazard to the skin are known or suspected;
- Chemical concentrations are known to be above IDLH levels; or,
- Biological hazards requiring Level A are known or suspected.

### 6.2 Level B Protection

- The substance(s) has been identified and requires a high level of respiratory protection but less skin protection;
- Concentrations of chemicals in the air are IDLH or above the maximum use limit of an APR with full-face mask;
- Oxygen deficient or potentially oxygen deficient atmospheres (<19.5%) are possible; and/or,
- Confined space entry may require Level B.
- Incomplete identification of gases and vapors, but not suspected to be harmful to skin or skin absorbable.

### 6.3 Level C Protection

- The same level of skin protection as Level B, but a lower level of respiratory protection is required;
- The types of air contaminants have been identified, concentrations measured, and an air-purifying respirator is available that can remove contaminants; or,
- The substance has adequate warning properties and all criteria for the use of APR respirators has been met.



6.3.1 Level C Protective Equipment at a Minimum Shall Consist of:

<u>Protective Gear - Level C</u>	(Check and list required type)
Survivair Air Purifying Respirator or PAPR	Full-face, half-face w/ eye protection
Cartridges (type)	P-100
Chemical Resistant/Protective Coveralls (type)	Tyvek*, Kleengard
Full Body Apron or Other (type)	
Inner Gloves	Nitrile
Outer Chemical Gloves (type)	Nitrile,
Safety shoes/Boots (type)	Steel Toed
Hard Hat	X
Respiratory Inserts	
Eye protection	ANSI rated protective eye wear
Modifications:	Use leather gloves when handling sharp objects.
	*Saranex may be necessary when handling liquid material.

6.4 Level D Protection

- The atmosphere is demonstrated to be within OSHA permissible limits

6.4.1 Level D Protection Equipment at a Minimum Shall Consist of:

<u>Protective Gear - Level D</u>	(Check and list required type)
Chemical Resistant/Protective Coveralls (type)	Cotton Coveralls
Rain Suit	Rubber
Safety Shoes/Boots (type)	Steel Toed
Boot Covers (booties)	Latex
Work Gloves (type)	Leather
Hard Hat	NIOSH approved
Face Shield	
Safety Glasses	ANSI rated protective eye wear
Modifications:	

Specific operating procedures for PPE and Respiratory Protection are in Attachment D.

6.5 Decisions to Upgrade/Downgrade PPE

- [1] All decisions to downgrade from Level B to C or D must be accompanied by air monitoring results. The Corporate Health and Safety Manager must be advised of on-site decisions to downgrade. All decisions must be documented with an Addendum to the Plan.
- [2] The following conditions will necessitate reevaluation of PPE use.
  - a. commencement of a new work not previously identified
  - b. change of job tasks during a work phase
  - c. change of season/weather
  - d. contaminants other than those identified in Safety Plan
  - e. change in ambient levels of contaminants
  - f. change in work which affects degree of chemical contact



## **7.0 MEDICAL SURVEILLANCE**

### **7.1 Pre-Employment Physical**

- a. Pre-employment and periodic update medical examinations are required for persons working at hazardous waste sites.
- b. All physicals must be completed and documented prior to assignment to this site.
- c. All physical exams will be conducted following parameters established by the respective employee's Corporate Physicians.

### **7.2 Site Specific Physical Examination**

A current Fitness for Duty statement will be kept on site for all ER personnel.

### **7.3 Annual Physical Exam**

The medical examination must have been within a 12-month period prior to on-site activity and repeated annually.

### **7.4 Accidental/Suspected Exposure Physical**

- a. Following any accidental or suspected uncontrolled exposure to site contaminants, personnel should be scheduled for a special physical examination.
- b. The physical examination will be specific for the contaminants and the associated target organs or physiological system.
- c. Questions regarding the type of physical can be directed to ER's Corporate Health and Safety Manager or the ER Corporate Physician.

### **7.5 Contractor Physical Examination Requirements**

All subcontractors entering the contamination reduction or exclusion zone will have adequate medical surveillance satisfying 29CFR 1910.120.10 (f).

### **7.6 Site Documentation**

All personnel on-site must have the following documentation available on site:

- [1] Copy of 40 hour certificate
- [2] Copy of Manager's/Supervisor's 8 hour certificate
- [3] Copy of 8 Hour Annual Refresher (if > 12 months since 40 hour)
- [4] CPR/First Aid Certificate (annual)
- [5] Respirator Fit Test (annual)
- [6] Medical Fitness for Duty

## **8.0 AIR MONITORING AND ACTION LEVELS**

According to 29 CFR 1910.120 (h) Air Monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection needed on-site. All air monitoring will be conducted by CDM Federal Programs Corporation.

### **8.1 Routine Air Monitoring Requirements**

Initial personnel air monitoring is to determine need for respiratory protection.



Air monitoring will consist at a minimum of the criteria listed below. All air monitoring data will be documented and available in the command post site files for review by all interested persons. Air monitoring instruments will be calibrated and maintained in accordance with the manufacturer's specifications.

8.2 Site Specific Air Monitoring Requirements

Refer to CDM Air Monitoring Plan

INSTRUMENT	COMPOUNDS TO DETECT	FREQUENCY	COMMENTS/ ACTION LEVEL
MSA Escort or equivalent	Asbestos	Daily	Per CDM Air Monitoring Plan

8.3 Personnel Monitoring ☒ Yes ☐ No

Refer to CDM Air Monitoring Plan

Perimeter: ☐ Yes ☒ No

Describe: \_\_\_\_\_

Explain strategy or why not required: CDM to perform monitor per standard.

8.3.1 Sampling Methods: NIOSH Method 7400

8.3.2 Describe calibration procedures: Pre and Post

8.3.3 Analytical laboratory to be used: Determined by CDM

8.4 Noise Monitoring: ☐ Yes ☒ No

Describe monitoring strategy: \_\_\_\_\_

8.5 Heat Stress Monitoring: ☒ Yes ☐ No

Describe monitoring strategy: Per ACGIH Guidelines

8.6 Other: ☐ Yes ☒ No

Describe: \_\_\_\_\_

8.7 Name(s) of Monitoring Technician(s): CDM Personnel

8.8 Location of Monitoring Records:

Copies of monitoring records will be retained in the job file upon the completion of the job. Additional copies will be maintained in the ER Health and Safety Department.



## 9.0 SITE CONTROL AND STANDARD OPERATING PROCEDURES

### 9.1 Work Zones

The primary purpose for site controls is to establish the hazardous area perimeter, to reduce migration of contaminants into clean areas and to prevent access or exposure to hazardous materials by unauthorized persons. At the end of each workday, the site should be secured or guarded, to prevent unauthorized entry.

Because the site logistics entail the contamination zone being sectioned to allow day to day printing operations to continue, zone designation will not follow normal hazardous waste site operational guidelines. The Clean Zone, Contamination Reduction Zone and Contamination Zone will not be cordoned off as separate entities.

#### 9.1.1 Clean Zone/Support Zone

This uncontaminated support zone or clean zone will be the area outside the exclusion and decontamination zones and within the geographic perimeters of the site. This area is used for staging of materials, parking of vehicles, office and laboratory facilities, sanitation facilities, and receipt of deliveries. Personnel entering this zone may include delivery personnel, visitors, security guards, etc., who will not necessarily be permitted in the exclusion zone. All personnel arriving in the support zone will upon arrival, report to the command post and sign the site entry/exit log. There will be one controlled entry/exit point from the clean zone to the decontamination zone.

- [1] Location of Clean Zone: Will vary as describe in Section 9.1 to include the clean room in the decontamination trailer.

#### 9.1.2 Decontamination Zone

The decontamination zone will provide a location for removal of contaminated personal protective equipment and final decontamination of personnel and equipment. All personnel and equipment should exit via the decon area.

- [1] The decontamination zone will be constructed during initial operations. A decontamination zone will be established between the Exclusion zone and the Clean zone to include the dirty room in the decontamination trailer.

#### 9.1.3 Exclusion Zone/Hot Zone

The exclusion zone will be the "hot-zone" or contaminated area inside the site perimeter. Entry to and exit from this zone will be made through a designated point. Appropriate warning signs to identify the exclusion zone should be posted (i.e. "DANGER - AUTHORIZED PERSONNEL ONLY", "PROTECTIVE EQUIPMENT REQUIRED BEYOND THIS POINT", etc.) Exit from the exclusion zone must be accompanied by personnel and equipment decontamination as described in Section 10.0.

- [1] General Safety Rules for Exclusion Zone
  - a. wear the appropriate level of PPE defined in plan
  - b. do not remove any PPE or break the integrity to pick, scratch, or touch parts of your body
  - c. no smoking, eating or drinking
  - d. no horseplay



- e. no matches or lighters in this zone
- f. implement the communication and line of sight system

## 9.2 General Field Safety Rules

- All visitors must be sent to the command post.
- No horseplay is allowed at any time during the project.
- It is ER policy to practice administrative hazard control for all site areas by restricting entrance to exclusion zones to essential personnel and by using operational SOPs.
- Whenever possible, avoid contact with contaminated (or potentially contaminated) surfaces. Walk around (not through) puddles and discolored surfaces. Do not kneel on the ground or set equipment on the ground. Stay away from any waste drums unless necessary. Protect equipment from contamination by bagging.
- Eating, drinking, or smoking is permitted only in designated areas in the support zone.
- Hands and face must be thoroughly washed upon leaving the decon area.
- Beards or other facial hair that interferes with respirator fit will preclude admission to the hot zone.
- All equipment must be decontaminated or discarded upon exit from the exclusion zone.
- All personnel exiting the exclusion zone must go through the decontamination procedures described in Section 10.0.
- Safety Equipment described in Section 6.0 will be required for all field personnel.
- Personnel will only travel in vehicles where individual seats (for each occupant) are provided. Seat belts will be worn as required.
- Fire extinguishers will be available on site and in all areas with increased fire danger such as the refueling area.
- A minimum of two personnel will always be on site whenever heavy equipment is operated. Only necessary personnel need to be on or around heavy equipment.
- Employees will not interfere with or tamper in any way with air monitoring equipment.
- Backhoes or other equipment with booms shall not be operated within 10 feet of any electrical conductor.
- Visitor log will be maintained at the command post or decon trailer. All personnel coming on site will sign in and out on a daily basis.
- Security will be maintained at the site by closing all gates during normal work hours. Site will be locked up in the evening or security on site.



- If unauthorized members of the public are found on site, contact RM immediately and do not leave the individual unattended.
- Visitors are not allowed in the work areas without authorization. Visitors must sign in at the Command Post or decontamination trailer and receive authorization to enter the site.
- Buddy System
  - [1] The buddy system is mandatory at anytime that personnel are working in the exclusion zone, remote areas, on tanks, or when conditions present a risk to personnel.
  - [2] A buddy system requires at least two trained/experienced people who work as a team and maintain at a minimum audible and/or visual contact while operating in the exclusion zone.
- Communication Procedures
  - [1] Radios will be used for on site communications and Repeater channel will be the designated channel.
  - [2] The crews should remain in constant radio or visual contact while on site.
  - [3] The site evacuation signal will be 3 blasts on the air or vehicle horn.

## **10.0 DECONTAMINATION PROCEDURES**

In general, everything that enters the exclusion zone at this site must either be decontaminated or properly discarded. Prior to demobilization, contaminated equipment will be decontaminated and inspected before it is moved off site. Gross decon of equipment will take place prior to exiting property or wrapped in poly.

### **10.1 Procedures for Equipment Decontamination**

Following decontamination and prior to exiting from the hot zone, key personnel shall be responsible for insuring that the item has been sufficiently decontaminated.

Equipment decontamination will consist of the following steps:

- 1) **Decontamination with pad**
  - a gross removed before enter pad
  - b on entering the pad equipment will be pressure wash
  - c truck tires will be pressure wash
  - d all equipment will be inspected before exiting
- 2) **Decontamination with out pad**
  - a poly and or plywood will be place where truck is enter the loading zone
  - b this area will be inspected before and after truck exiting
  - c poly will be replace as need



3) **Decontamination with poly wrap**

- a all equipment tracks and buckets will have gross removal before poly wrap
- b equipment tracks and buckets will be poly wrap before exiting site

10.2 Procedure for Personnel Decontamination

This decontamination procedure applies to personnel at this site wearing Level C protection. Portable shower units may be used when logistics do not support the use of decon-trailers. All sites that are any size will have a decontamination trailer on site. The trailers are set up for going into the hot zone and exiting the zone. Decontamination facility will be maintained under negative air pressure at all times.

They all have 2 and 4 men shower units.

THE CLEAN ROOM

- 1 Enter clean room
- 2 Remove street clothing
- 3 Put on under clothing (shorts)
- 4 Inspect respirator, put it on, check fit
- 5 Proceed to dirty room

THE DIRTY ROOM

- 6 Put on any equipment or additional clothing
- 7 Proceed to work area

THE WORK AREA TO DIRTY ROOM

- 8 Remove non-disposable PPE and properly store (except respirator)
- 9 Remove disposable PPE and place in proper disposal container
- 10 Enter shower with respirator

THE SHOWER

- 11 Thoroughly clean respirator (without removing)
- 12 Thoroughly clean self
- 13 Remove respirator upon thorough cleaning and dispose of cartridges
- 14 Complete Self cleaning

THE CLEAN ROOM

- 15 Dry off, dress back into street cloths
- 16 Exit clean room

Eating, drinking, chewing gum/tobacco, smoking, or any practice that increases the probability of hand to mouth transfer and/or ingestion of materials is prohibited in any areas where the possibility of contamination exists and is permitted only in the designated break area.

- 10.3 Emergency decontamination will consist of the following steps:  
(Any blood contaminated material will be bag, labeled and accompany the individual to the hospital.)



10.4 Decontamination equipment is required: Water source on site.

10.5 Disposition of Decontamination Wastes

- [1] All equipment will be decon with water and filter through a 4 micron filter and disposed at the county landfill (asbestos cell)

#### 11.0 HAZARD COMMUNICATION PROGRAM

Each contractor will be responsible for maintaining a copy of their Hazardous Communication Program and MSDS' on site. The following items are specific to this job site:

##### 11.1 Material Safety Data Sheets

- [1] Material Safety Data Sheets will be maintained at the Command Post in the Health and Safety Binder.
- [2] MSDS' will be available to all employees for review during the work shift.
- [3] See Attachment C and/or the ER Health and Safety Binder.

##### 11.2 Container Labeling

- [1] All containers received on site will be inspected by the contractor using the material to ensure the following:
  - A. all containers clearly labeled
  - B. appropriate hazard warning
  - C. name and address of the manufacturer

##### 11.3 Chemicals brought to site:

- [1] Alconox
- [2] Gasoline
- [3] Diesel Fuel

##### 11.4 Employee Training and Information

- [1] Prior to starting work, each employee will attend a health and safety orientation and will receive information and training on the following:
  - A. and overview of the requirements contained in the Hazardous Communication Standard
  - b. Hazardous chemicals present at the site
  - C. the location and availability of the written Haz Comm Program
  - D. physical and health effects of the hazardous chemicals
  - E. methods of preventing or eliminating exposure
  - F. emergency procedures to follow if exposed
  - G. how to read labels and review MSDS' to obtain information
  - H. location of MSDS file and location of hazardous chemical list

See ER's Corporate Health and Safety Binder for Hazard Communication Program and applicable MSDS'.



## 12.0 EMERGENCIES/ACCIDENTS/INJURIES

It is essential that site personnel be prepared in the event of an emergency. Emergencies can take many forms; illnesses or injuries, chemical exposure, fires, explosions, spills, leaks, releases of harmful contaminants, or sudden changes in the weather. The following sections outline the general procedures for emergencies. Emergency information should be posted as appropriate.

### 12.1 Emergency Contacts for Vermiculite Intermountain Site

SERVICE	CITY / LOCATION	EMERGENCY PHONE
Fire	Salt Lake City	911 or 801.799.4231
Police	Salt Lake City	911 or 801.799.3000
Sheriff	Salt Lake City	911 or 801.468.3900
Ambulance	Gold Cross	911 or 801.972.1211
Hospital	Salt Lake Regional Medical 1050 E. South Temple Salt Lake City, UT	801.350.4111
Poison Control Center		800.222-1222

Directions from Site to Hospital: (See Map in Attachment B):

**NOTE:** Maps and directions to the hospital will be posted in the office and decon trailers and kept in on site vehicles.

Approximate distance from site to hospital is 2.2 miles. Approximate driving time is 4.5 minutes.

The following individuals have been trained in CPR and First Aid: Byron Hartman, Dave Mangiaracino, John Hall and Key personal

### 12.2 Additional Emergency Numbers

National Response Center	800-424-8802
Center for Disease Control	404-488-4100 (24 hr)
AT&F (Explosives Information)	800-424-9555
Chemtrec	800-424-9300

#### Environmental Restoration LLC Contacts

ERLLC	888 -814 - 7477 (24 Hr.)
ERLLC (St. Louis)	636 -227 - 7477

### 12.3 Emergency Equipment Available On-Site

COMMUNICATIONS EQUIPMENT	LOCATION
Public Telephones	N/A
Private Telephones	N/A
Mobile Telephones	Byron Hartman and Key personal
Two-Way Radios	Site office and Job site
Emergency Alarms/Horns	N/A
Other:	N/A



MEDICAL EQUIPMENT		LOCATION
First Aid Kits		Site office and pickup truck
Inspection Date:		new
Inspected By:		Kyle Dittmer
Stretcher/Backboard		N/A
Eye Wash Station: (within 100 feet of hazard zone)		N/A
Safety Shower		Decontamination trailer

FIRE FIGHTING EQUIPMENT		LOCATION
Fire Extinguishers		Site office and Job site
Inspection Date:	July, 04	
Inspected By:	Fire and Safety Tech.	
Other		

SPILL OR LEAK EQUIPMENT		LOCATION
Absorbent Boom/Pads:		Spill kit
Dry Absorbent:		Spill kit

ADDITIONAL EMERGENCY EQUIPMENT		LOCATION

#### 12.4 Incident Reporting/Investigations

12.4.1 All injuries or incidents must be reported to the Project Manager or Site Safety Officer immediately.

12.4.2 The Project Manager will contact ER Corporate Health and Safety Manager by telephone immediately. The Response Manager and affected employees will conduct an immediate investigation of the incident and document all results on the Supervisor's Incident Investigation Report.

12.4.3 The Corporate Health and Safety Manager will complete Worker's Compensation reporting.

12.4.4 The Project Manager will assign a supervisory individual to accompany all injured personnel to the clinic and follow guidelines outlined in the ER Return to Work Program.

12.4.5 Copies of all Supervisors' Incident Reports will be sent to the ER Corporate Health and Safety Manager.

#### 13.0 **EMERGENCY RESPONSE CONTINGENCY PLAN**

##### 13.1 Project Personnel Responsibilities During Emergencies

EPA/ VOLPE and CDM health & safety will be notified of any Emergencies



## RESPONSE MANAGER (RM)

As the administrator of the project, the RM has primary responsibility for responding to and correcting emergency situations. The RM will:

- Take appropriate measures to protect personnel including: withdrawal from the exclusion zone, total evacuation and securing of the site or up-grading or down- grading the level of protective clothing and respiratory protection.
- Take appropriate measures to protect the public and the environment including isolating and securing the site, preventing run-off to surface waters and ending or controlling the emergency to the extent possible.
- Ensure that appropriate Federal, State and local agencies are informed, and emergency response plans are coordinated. In the event of fire or explosion, the local fire department should be summoned immediately. In the event of an air release of toxic materials, the local authorities should be informed in order to assess the need for evacuation. In the event of a spill, sanitary districts and drinking water systems may need to be alerted.
- Ensure that appropriate decon treatment or testing for exposed or injured personnel is obtained.
- Determine the cause of the incident and make recommendations to prevent the recurrence.
- Ensure that all required reports have been prepared.

### 13.2 Medical Emergencies:

Any person who becomes ill or injured in the exclusion zone must be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination should be completed and first aid administered prior to transport. If the patient's condition is serious, at least partial decontamination should be completed (i.e., complete disrobing of the victim and redressing in clean coveralls or wrapping in a blanket.) First aid should be administered while awaiting an ambulance or paramedics. All injuries and illnesses must immediately be reported to Health and Safety.

Any person transporting an injured/exposed person to a clinic or hospital for treatment should take with them directions to the hospital and information on the chemical(s) they may have been exposed to. This information is included in Table 4.2. Any vehicle used to transport contaminated personnel, will be cleaned or decontaminated as necessary.

### 13.3 Fire or Explosion:

In the event of a fire or explosion, the local fire department should be summoned immediately. Upon their arrival the RM or designated alternate will advise the fire commander of the location, nature and identification of the hazardous materials on- site.

If it is safe to do so, site personnel may:

- Use fire fighting equipment available on site.
- Remove or isolate flammable or other hazardous materials which may contribute to the fire.



#### **13.4 Spills, Leaks or Releases:**

In the event of a spill or a leak, site personnel will:

- locate the source of the spillage and stop the flow if it can be done safely,
- Begin containment and recovery of the spilled materials.

#### **13.5 Evacuation Routes:**

Evacuation routes have been established by work area locations for this site. All buildings and outside work areas have been provided with two designated exit points. Evacuation should be conducted immediately, without regard for equipment under conditions of extreme emergency. See site map for evacuation routes.

- Evacuation notification will be three blasts on an air horn, vehicle horn, or by verbal communication via radio.
- Keep upwind of smoke, vapors or spill location.
- Exit through the decontamination corridor if possible.
- If evacuation is not via the decontamination corridor, site personnel should remove contaminated clothing once they are in a location of safety and leave it near the exclusion zone or in a safe place.
- The RM will conduct a head count to insure all personnel have been evacuated safely.
- In the event that emergency site evacuation is necessary, all personnel are to:
  1. Escape the emergency situation;
  2. Decontaminate to the maximum extent practical; and,
  3. Meet at the command post.

#### **14.0 CONFINED SPACE**

A confined space is defined as a space or work area not designed or intended for normal human occupancy, having limited means of access and poor natural ventilation, and or any structure, including buildings or rooms which have limited means of egress. Examples include tanks, vats, and basements. Confined spaces identified at this site are listed below. If a confined space entry is conducted, it will be done in accordance with procedures presented in ER Confined space plane

No confined space work anticipated.



**ATTACHMENT A  
SITE SAFETY PLAN AMENDMENTS**



**SITE SAFETY PLAN AMENDMENT**

1. Amendment No.:			
2. Project/Location:			
3. Subject of Change:			
4. Recommended Change:			
5. Reason for Change:			
6. Submitted by: John Vrenick		Company: Environmental Restoration L.L.C.	
		Date:	
7. Disposition Comments: <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved			
8. Documents Affected (list submittal number if applicable): <input checked="" type="checkbox"/> Task-specific HASP <input type="checkbox"/> Work Plan <input type="checkbox"/> Other Documents (List):			
9. Required Review/Acceptance:			
<input checked="" type="checkbox"/> ER Project Manager			Date:
<input checked="" type="checkbox"/> ER Project Health and Safety Representative			Date:
10. Review and Acceptance (review/acceptance signature is required only if box is checked):			
<input type="checkbox"/> ER Health and Safety Manager (required if ER Project H&S representative does not have delegated authority)			Date:
<input type="checkbox"/> ER Project Health and Safety Representative			Date:
11. Distribution:	1.	2.	3.
			4.

File Copies: ERLLC Health and Safety Department  
Project File



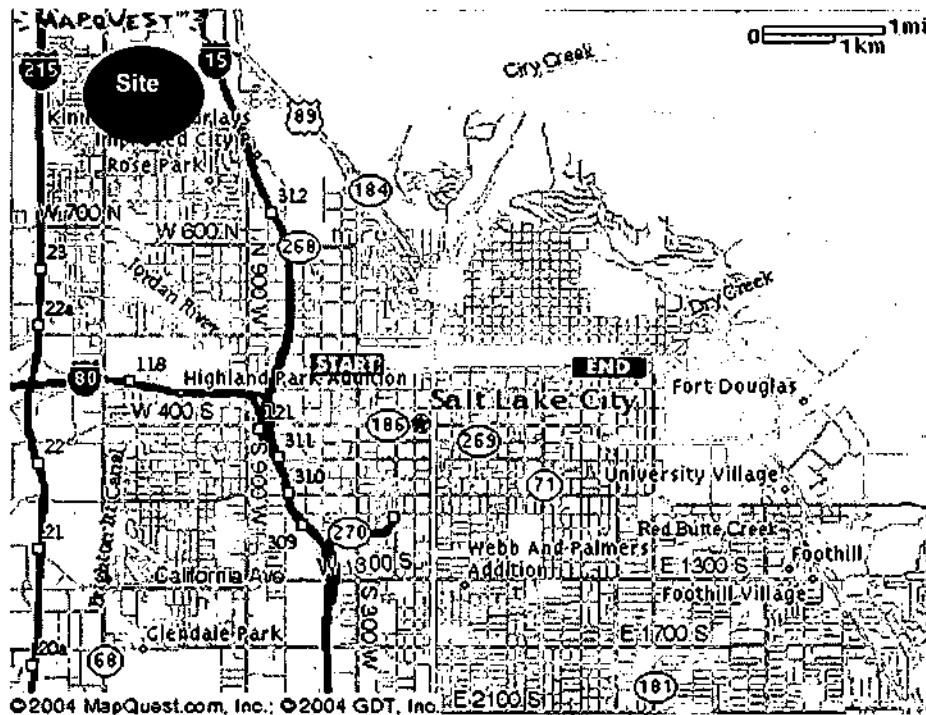
**ATTACHMENT B**

**SITE MAPS**



Directions to Hospital from Site

	Approx. Distance
East on W. 100 South toward S 300 W/UT- 186	0.1 miles
Turn Left onto S 300 W/UT-186	0.1 miles
Turn Right onto W South Temple	2.0 miles
End at 1050 E South Temple Salt Lake City, UT	0.0 miles



**Salt Lake Regional Medical Center**  
**1050 E. South Temple**  
**(801) 972-1211**

**Lutheran  
Hospital**



**ATTACHMENT C**

**CHEMICAL HAZARD INFORMATION**

**LOOK AT MSDS AT INFORMATION CENTER**



ALCONOX -- ALCONOX - DETERGENT, GENERAL PURPOSE  
MATERIAL SAFETY DATA SHEET  
NSN: 7930011986050  
Manufacturer's CAGE: 17534  
Part No. Indicator: A  
Part Number/Trade Name: ALCONOX  
=====

General Information  
=====

Item Name: DETERGENT, GENERAL PURPOSE  
Company's Name: ALCONOX INC.  
Company's Street: 215 PARK AVE SOUTH  
Company's City: NEW YORK  
Company's State: NY  
Company's Country: US  
Company's Zip Code: 10003-1603  
Company's Emerg Ph #: 212-473-1300  
Record No. For Safety Entry: 001  
Tot Safety Entries This Stk#: 001  
Status: SEU  
Date MSDS Prepared: 01FEB91  
Safety Data Review Date: 04DEC91  
Supply Item Manager: CX  
MSDS Serial Number: BLLFP  
Hazard Characteristic Code: N1  
Unit Of Issue: BX  
Unit Of Issue Container Qty: 4.00 LBS  
Type Of Container: BOX  
Net Unit Weight: 4.00 LBS  
=====

Ingredients/Identity Information  
=====

Proprietary: NO  
Ingredient: THE MANUFACTURER STATES THAT NO HAZARDOUS INGREDIENTS ARE  
PRESENT IN THIS PRODUCT.  
Ingredient Sequence Number: 01  
Percent: N/A  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE  
Other Recommended Limit: NONE SPECIFIED  
=====

Physical/Chemical Characteristics  
=====

Appearance And Odor: WHITE POWDER INTERSPERSED WITH CREAM COLORED FLAKES,  
ODORLESS.  
Boiling Point: N/A  
Melting Point: N/A  
Vapor Pressure (MM Hg/70 F): N/A  
Vapor Density (Air=1): N/A  
Specific Gravity: N/A  
Evaporation Rate And Ref: N/A  
Solubility In Water: APPRECIABLE (>10%)  
Percent Volatiles By Volume: N/A  
pH: N/A  
=====

Fire and Explosion Hazard Data  
=====

Flash Point: NONE  
Lower Explosive Limit: N/A  
Upper Explosive Limit: N/A  
Extinguishing Media: WATER, CARBON DIOXIDE, FOAM, SAND/EARTH.  
Special Fire Fighting Proc: FOR FIRES INVOLVING THIS MATERIAL DO NOT ENTER  
WITHOUT PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS.  
Unusual Fire And Expl Hazrds: NONE  
=====

Reactivity Data  
=====

Stability: YES  
Cond To Avoid (Stability): NONE  
Materials To Avoid: STRONG ACIDS.



Hazardous Decomp Products: MAY RELEASE CARBON DIOXIDE GAS ON BURNING.  
Hazardous Poly Occur: NO  
Conditions To Avoid (Poly): NOT APPLICABLE

Health Hazard Data

LD50-LC50 Mixture: UNKNOWN  
Route Of Entry - Inhalation: YES  
Route Of Entry - Skin: NO  
Route Of Entry - Ingestion: YES  
Health Haz Acute And Chronic: INHALATION OF POWDER MAY PROVE LOCALLY  
IRRITATING TO MUCOUS MEMBRANES. INGESTION MAY CAUSE DISCOMFORT.  
Carcinogenicity - NTP: NO  
Carcinogenicity - IARC: NO  
Carcinogenicity - OSHA: NO  
Explanation Carcinogenicity: NOT APPLICABLE  
Signs/Symptoms Of Overexp: INGESTION MAY CAUSE DIARRHEA.  
Med Cond Aggravated By Exp: RESPIRATORY CONDITIONS.  
Emergency/First Aid Proc: EYES: FLUSH WITH PLENTY OF WATER FOR 15 MIN.  
SKIN: FLUSH WITH PLENTY OF WATER. INGESTION: DRINK LARGE QUANTITIES OF  
WATER. GET MEDICAL ATTENTION FOR DISCOMFORT.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: MATERIAL FOAMS PROFUSELY. SHOVEL AND RECOVER  
AS MUCH AS POSSIBLE. RINSE REMAINDER TO SEWER. MATERIAL IS COMPLETELY  
BIODEGRADABLE.  
Neutralizing Agent: NONE  
Waste Disposal Method: SMALL QUANTITIES MAY BE DISPOSED OF IN SEWER. LARGE  
QUANTITIES SHOULD BE DISPOSED OF ACCORDING TO LOCAL REQUIREMENTS FOR  
NON-HAZARDOUS DETERGENTS.  
Precautions-Handling/Storing: STORE IN A DRY AREA TO PREVENT CAKING.  
Other Precautions: NO SPECIAL REQUIREMENTS OTHER THAN THE GOOD INDUSTRIAL  
HYGIENE AND SAFETY PRACTICES EMPLOYED WITH ANY INDUSTRIAL CHEMICAL.

Control Measures

Respiratory Protection: DUST MASK.  
Ventilation: NORMAL LOCAL EXHAUST.  
Protective Gloves: USEFUL BUT NOT REQUIRED.  
Eye Protection: USEFUL BUT NOT REQUIRED.  
Other Protective Equipment: NONE REQUIRED.  
Work Hygienic Practices: NO SPECIAL PRACTICES REQUIRED.  
Suppl. Safety & Health Data: NONE

Transportation Data

Trans Data Review Date: 91338  
DOT PSN Code: ZZZ  
DOT Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION  
IMO PSN Code: ZZZ  
IMO Proper Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATION  
IATA PSN Code: ZZZ  
IATA Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION  
AFI PSN Code: ZZZ  
AFI Prop. Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION  
Additional Trans Data: NONE

Disposal Data

Label Data

Label Required: YES  
Technical Review Date: 04DEC91  
Label Date: 04DEC91  
Label Status: F  
Common Name: ALCONOX  
Chronic Hazard: NO  
Signal Word: CAUTION!  
Acute Health Hazard-Slight: X



Contact Hazard-Slight: X  
Fire Hazard-None: X  
Reactivity Hazard-None: X  
Special Hazard Precautions: INHALATION OF POWDER MAY PROVE LOCALLY  
IRRITATING TO MUCOUS MEMBRANES. INGESTION MAY CAUSE DISCOMFORT. STORE IN A  
DRY AREA TO PREVENT CAKING. FIRST AID: EYES: FLUSH WITH PLENTY OF WATER FOR  
15 MIN. SKIN: FLUSH WITH PLENTY OF WATER. INGESTION: DRINK LARGE QUANTITIES  
OF WATER. GET MEDICAL ATTENTION FOR DISCOMFORT.  
Protect Eye: Y  
Protect Respiratory: Y  
Label Name: ALCONOX INC.  
Label Street: 215 PARK AVE SOUTH  
Label City: NEW YORK  
Label State: NY  
Label Zip Code: 10003-1603  
Label Country: US  
Label Emergency Number: 212-473-1300



ENVIRONMENTAL  
RESTORATION, LLC

ERRS REGION 8, CONTRACT 68-W-01-053  
SITE SAFETY PLAN  
TASK ORDER 0042

DIESEL FUEL NO. 2 - DIESEL FUEL  
MATERIAL SAFETY DATA SHEET  
NSN: 9140002865296  
Manufacturer's CAGE: 15445  
Part No. Indicator: A  
Part Number/Trade Name: DIESEL FUEL NO. 2

General Information

Item Name: DIESEL FUEL  
Company's Name: CONOCO INC  
Company's Street: 600 N DAIRY ASHFORD RD RM 3012  
Company's P. O. Box: 4784  
Company's City: HOUSTON  
Company's State: TX  
Company's Country: US  
Company's Zip Code: 77210-4784  
Company's Emerg Ph #: 713-293-5550/800-424-9300  
Company's Info Ph #: 713-293-5550  
Record No. For Safety Entry: 029  
Tot Safety Entries This Stk#: 093  
Status: SMU  
Date MSDS Prepared: 14AUG91  
Safety Data Review Date: 24JUN92  
Supply Item Manager: KY  
MSDS Serial Number: BMZTT  
Specification Number: VV-F-800  
Spec Type, Grade, Class: GRADE DF-2  
Hazard Characteristic Code: F4

Ingredients/Identity Information

Proprietary: NO  
Ingredient: PETROLEUM MID-DISTILLATE (DIESEL MARINE FUEL)  
Ingredient Sequence Number: 01  
Percent: 100 %  
NIOSH (RTECS) Number: 1004302PE  
CAS Number: 68476-34-6  
OSHA PEL: 5 MG/M3 AS OIL MIST  
ACGIH TLV: 5 MG/M3 AS OIL MIST  
Other Recommended Limit: NONE SPECIFIED

Physical/Chemical Characteristics

Appearance And Odor: CLEAR OR LIGHT YELLOW LIQUID, AROMATIC ODOR  
Boiling Point: 350 - 680F  
Melting Point: NOT GIVEN  
Vapor Pressure (MM Hg/70 F): 1 MMHG  
Vapor Density (Air=1): > 1  
Specific Gravity: 0.85 - 0.93  
Decomposition Temperature: NOT GIVEN  
Evaporation Rate And Ref: NIL  
Solubility In Water: INSOLUBLE  
Percent Volatiles By Volume: NIL  
Corrosion Rate (IPY): UNKNOWN

Fire and Explosion Hazard Data

Flash Point: 130F, 54C  
Flash Point Method: TCC  
Lower Explosive Limit: 0.4 %  
Upper Explosive Limit: 6 %  
Extinguishing Media: WATER SPRAY, FOAM, DRY CHEMICAL CARBON DIOXIDE  
Special Fire Fighting Proc: USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL. IF LEAK OR SPILL HAS NOT IGNITED, USE WATER SPRAY TO DISPERSE THE VAPORS AND TO PROVIDE PROTECTION.  
Unusual Fire And Expl Hazrds: PRODUCTS OF COMBUSTION MAY CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND OTHER TOXIC MATERIALS. DO NOT ENTER ENCLOSED OR CONFINED SPACE WITHOUT PROPER PPE.

Reactivity Data



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Stability: YES  
Cond To Avoid (Stability): AVOID HEAT AND FLAME  
Materials To Avoid: INCOMATIBLE WITH OXIDIZING MATERIALS.

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Health Hazard Data

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Precautions for Safe Handling and Use

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Control Measures

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Transportation Data

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Disposal Data

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Label Data

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Label Required: YES  
Technical Review Date: 24JUN92  
MFR Label Number: NONE  
Label Status: G  
Common Name: DIESEL FUEL NO. 2  
Chronic Hazard: NO  
Signal Word: CAUTION!  
Acute Health Hazard-Slight: X  
Contact Hazard-Slight: X  
Fire Hazard-Slight: X  
Reactivity Hazard-None: X  
Special Hazard Precautions: STORE IN WELL VENTILATED AREA. KEEP CONTAINER  
TIGHTLY CLOSED. STORE IN ACCORDANCE WITH NATIONAL FIRE PROTECTION ASSN  
REGULATIONS. FIRST AID: INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING,  
GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A  
PHYSICIAN. SKIN: FLUSH SKIN WITH WATER AFTER CONTACT. REMOVE CONTAMINATED  
CLOTHING. EYES: IMMEDIATELY FLUSH WITH WATER FOR 15 MINUTES. CALL A  
PHYSICIAN. INGESTION: DO NOT INDUCE VOMITING. IMMEDIATELY GIVE TWO GLASSES  
OF WATER. NEVER GIVE ANYTHING TO IF UNCONCIOUS. CALL MD  
Protect Eye: Y  
Protect Skin: Y  
Label Name: CONOCO INC  
Label Street: 600 N DAIRY ASHFORD RD RM 3012  
Label P.O. Box: 4784  
Label City: HOUSTON  
Label State: TX  
Label Zip Code: 77210-4784  
Label Country: US  
Label Emergency Number: 713-293-5550/800-424-9300



ENVIRONMENTAL  
RESTORATION, LLC

ERRS REGION 8, CONTRACT 68-W-01-053  
SITE SAFETY PLAN  
TASK ORDER 0042

GASOLINE - GASOLINE, UNLEADED  
MATERIAL SAFETY DATA SHEET  
NSN: 9130012084172  
Manufacturer's CAGE: COLOR  
Part No. Indicator: A  
Part Number/Trade Name: GASOLINE

General Information

Item Name: GASOLINE, UNLEADED  
Company's Name: COLORADO REFINING COMPANY  
Company's Street: 5800 BRIGHTON BLVD  
Company's City: COMMERCE CITY  
Company's State: CO  
Company's Country: US  
Company's Zip Code: 80022  
Company's Emerg Ph #: 517-463-1164, CHEMTREC 800-424-9300  
Company's Info Ph #: 303-295-4500  
Record No. For Safety Entry: 001  
Tot Safety Entries This Stk#: 064  
Status: SE  
Date MSDS Prepared: 29JAN91  
Safety Data Review Date: 30APR93  
Supply Item Manager: KY  
MSDS Preparer's Name: M.N. MARTIN  
MSDS Serial Number: BQNHV  
Specification Number: VV-G-1690  
Spec Type, Grade, Class: CIVGAS  
Hazard Characteristic Code: F2  
Unit Of Issue: DR  
Unit Of Issue Container Qty: 55 GALLONS  
Type Of Container: DRUM  
Net Unit Weight: 320.6 LBS

Ingredients/Identity Information

Physical/Chemical Characteristics

Appearance And Odor: SILVER, GREY OR CLEAR LIQUID WITH CHARACTERISTIC  
GASOLINE ODOR  
Boiling Point: <100F, <38C  
Vapor Pressure (MM Hg/70 F): 400-900MM  
Vapor Density (Air=1): 3-4  
Specific Gravity: 0.65-0.75  
Decomposition Temperature: UNKNOWN  
Evaporation Rate And Ref: <1 (ETHER=1)  
Solubility In Water: INSOLUBLE  
Percent Volatiles By Volume: 100  
Corrosion Rate (IPY): UNKNOWN

Fire and Explosion Hazard Data

Flash Point: <-40F, <-40C  
Lower Explosive Limit: 1.3%  
Upper Explosive Limit: 6.0%  
Extinguishing Media: USE CARBON DIOXIDE, FOAM, OR DRY CHEMICAL. USE WATER  
FOG TO COOL SURROUNDING CONTAINERS.  
Special Fire Fighting Proc: WEAR FIRE FIGHTING PROTECTIVE EQUIPMENT AND A  
FULL FACED SELF CONTAINED BREATHING APPARATUS. EVACUATE AREA. COOL FIRE  
EXPOSED CONTAINERS WITH WATER SPRAY.  
Unusual Fire And Expl Hazrds: CONTAINERS WILL EXPLODE IN FIRE. VAPORS  
HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO SOURCE OF  
IGNITION AND FLASH BACK.

Reactivity Data

Stability: YES  
Cond To Avoid (Stability): HIGH HEAT, OPEN FLAMES AND OTHER SOURCES OF  
IGNITION  
Materials To Avoid: STRONG OXIDIZING AGENTS



Hazardous Decomp Products: CARBON MONOXIDE, CARBON DIOXIDE AND OTHER  
HYDROCARBON COMPOUNDS DURING COMBUSTION.  
Hazardous Poly Occur: NO  
Conditions To Avoid (Poly): NOT APPLICABLE

Health Hazard Data

LD50-LC50 Mixture: ORAL LD50 (RAT) IS UNKNOWN  
Route Of Entry - Inhalation: YES  
Route Of Entry - Skin: YES  
Route Of Entry - Ingestion: YES  
Health Haz Acute And Chronic: ACUTE-INHALATION: IRRITATION OF UPPER  
DERMATITIS, PNEUMOTITIS, POLYNEUROPATHY, PULMONARY EDEMA, AND KIDNEY  
DAMAGE.  
Carcinogenicity - NTP: YES  
Carcinogenicity - IARC: YES  
Carcinogenicity - OSHA: YES  
Explanation Carcinogenicity: CONTAINS Benzene [71-43-2] WHICH IS LISTED BY  
NTP AND IARC AND REGULATED BY OSHA AS A CARCINOGEN.  
Signs/Symptoms Of Overexp: COUGHING, DIFFICULTY IN BREATHING, NAUSEA,  
VOMTING, FATIGUE, DIZZINESS, HEADACHES, UNCONSCIOUSNESS, AND EYE  
IRRITATION, DRY SKIN.  
Med Cond Aggravated By Exp: PERSONS WITH A SKIN AND PULMONARY DISORDERS  
SHOULD USE CAUTION WHEN HANDLING OR USING THIS PRODUCT.  
Emergency/First Aid Proc: SKIN: REMOVE CONTAMINATED CLOTHING. WASH WITH  
SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.  
INHALATION: REMOVE TO FRESH AIR & RESTORE BREATHING IF NECESSARY. GET  
MEDICAL ATTENTION. EYE: IMMEDIATELY FLUSH WITH WATER FOR 15 MINUTES WHILE  
HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION. INGESTION: GET IMMEDIATE  
MEDICAL ATTENTION. DO NOT INDUCE VOMITING. NOTHING BY MOUTH IF UNCONSCIOUS.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: REMOVE SOURCES OF IGNITION & WEAR PROTECTIVE  
EQUIPMENT. MINOR: ABSORB MATERIAL WITH CLAY, VERMICULITE, OR SIMILAR  
ABSORBENT MATERIAL. PLACE IN DISPOSAL CONTAINERS. MAJOR: DIKE & CONTAIN  
SPILL. SHUT OFF LEAKS. REMOVE LIQUID BY VACUUM OR ABSORBENT.  
Neutralizing Agent: NOT APPLICABLE  
Waste Disposal Method: WASTE MAY BE BURNED IN AN APPROVED INCINERATOR OR  
DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS  
AND REGULATIONS.  
Precautions-Handling/Storing: STORE IN A COOL, VENTILATED WORK AREA. KEEP  
CONTAINERS CLOSED WHEN NOT IN USE. FLAMMABLE LIQUID; EMPTY CONTAINERS CAN  
BE HAZARDOUS.  
Other Precautions: THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT SHOULD  
BE MADE BY THE MATERIAL USER BASED ON THE PARTICULAR CONDITIONS WHERE THE  
MATERIAL IS TO BE USED TOGETHER WITH INFORMATION CONTAINED IN THIS MSDS.

Control Measures

Respiratory Protection: USE NIOSH APPROVED RESPIRATOR. AIR-SUPPLIED OR  
FILTERING TYPE WITH ORGANIC VAPOR CARTRIDGES ARE RECOMMENDED.  
Ventilation: LOCAL AND MECHANICAL EXHAUST RECOMMENDED. AVOID OPEN  
ELECTRICAL SOURCES NEAR PRODUCT VAPOR AREAS.  
Protective Gloves: NEOPRENE, NITRILE, OR POLYVINYL ALCOHOL  
Eye Protection: USE CHEMICAL SAFETY GOGGLES & FACESHIELD  
Other Protective Equipment: EYE WASH STATION & SAFETY SHOWER.  
Work Hygienic Practices: DO NOT TAKE INTERNALLY. AVOID SKIN CONTACT. WASH  
SKIN AFTER USING PRODUCT. DO NOT EAT, DRINK OR SMOKE IN WORK AREA.  
Suppl. Safety & Health Data: NONE

Transportation Data

Trans Data Review Date: 93168  
DOT PSN Code: GTN  
DOT Proper Shipping Name: GASOLINE  
DOT Class: 3  
DOT ID Number: UN1203  
DOT Pack Group: II  
DOT Label: FLAMMABLE LIQUID  
IMO PSN Code: HRV



IMO Proper Shipping Name: GASOLINE  
IMO Regulations Page Number: 3141  
IMO UN Number: 1203  
IMO UN Class: 3.1  
IMO Subsidiary Risk Label: -  
IATA PSN Code: MUC  
IATA UN ID Number: 1203  
IATA Proper Shipping Name: GASOLINE  
IATA UN Class: 3  
IATA Label: FLAMMABLE LIQUID  
AFI PSN Code: MUC  
AFI Prop. Shipping Name: GASOLINE  
AFI Class: 3  
AFI ID Number: UN1203  
AFI Pack Group: II  
AFI Basic Pac Ref: 7-7

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Disposal Data

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Label Data

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Label Required: YES  
Label Status: G  
Common Name: GASOLINE  
Special Hazard Precautions: ACUTE-INHALATION:IRRITATION OF UPPER  
DERMATITIS, PNEUMOTITIS, POLYNEUROPATHY, PULMONARY EDEMA, AND KIDNEY  
DAMAGE. COUGHING, DIFFICULTY IN BREATHING, NAUSEA, VOMTING, FATIGUE,  
DIZZINESS, HEADACHES, UNCONSCIOUSNESS, AND EYE IRRITATION, DRY SKIN.  
Label Name: COLORADO REFINING COMPANY  
Label Street: 5800 BRIGHTON BLVD  
Label City: COMMERCE CITY  
Label State: CO  
Label Zip Code: 80022  
Label Country: US  
Label Emergency Number: 517-463-1164, CHEMTREC 800-424-9300



**ATTACHMENT D**

**PERSONAL PROTECTIVE EQUIPMENT  
AND  
RESPIRATORY PROTECTION SOPs**



**INSPECTION OF PERSONAL PROTECTIVE CLOTHING**

- [1] Determine that clothing material is correct for specified task
  - a. compatibility chart
  - b. chemical hazard chart in Safety Plan
  - c. MSDS
- [2] Visually inspect material for:
  - a. imperfect seams
  - b. non-uniform coatings
  - c. tears
  - d. discoloration/degradation
  - e. malfunctioning closures
- [3] Hold up to light and check for pinholes.
- [4] Flex material:
  - a. observe for cracks
  - b. other signs of shelf deterioration
- [5] If the material has been used previously, inspect inside and out for signs of chemical penetration/degradation
  - a. discoloration
  - b. swelling
  - c. stiffness
- [6] During the work task:
  - a. evidence of discoloration/degradation
  - b. closure failure
  - c. tears
  - d. punctures
  - e. seam discontinuities



## RESPIRATORY PROTECTION

### General Guidelines

- [1] All personnel required to use respirators will select and use the respirators based upon guidelines established by OSHA, NIOSH, and the ERLLC Respiratory Protection Program.
- [2] All individuals required to wear respirators will have received a documented pre-issue qualitative fit test for the MSA full-face.
- [3] Each individual will be responsible for conducting a positive/negative fit check each time the respirator is donned.
- [4] Each individual shall be responsible for cleaning his/her own respirator at least once daily and is permitted to leave the work area to wash his/her own respirator as needed.
- [5] Cartridges or filters shall be changed after each daily use or whenever an increase in breathing resistance/odor is detected, or if they become wet. All changes will be made in uncontaminated areas.
- [6] No ERLLC employee shall wear a respirator until he/she has been examined by a physician and determined to be physically able to wear respiratory protection. This examination shall be documented at the site.
- [7] All personnel must be qualitatively fit test every six months.

### Air Purifying Respirator Inspection and Checkout

- [1] Visually inspect the entire unit for any obvious damages, defects, or deteriorated rubber.
- [2] Make sure the facepiece harness is not damaged.
- [3] Inspect lens for damage and proper seal in facepiece.
- [4] **Exhalation Valve**  
Pull off plastic cover and check valve for debris, tears, or deformities in the neoprene valve.
- [5] **Inhalation Valve**  
Screw off cartridges/canister and visually inspect neoprene valves for tears. Make sure that inhalation valves and cartridge receptacle gaskets are in place.
- [6] Insure that the speaking diaphragm retainer ring is hand tight.
- [7] Make sure that you have the correct cartridge.
- [8] Don and perform positive and negative pressure check.

### Storage of Air Purifying Respirators



- [1] OSHA requires that respirators be stored to protect against:
  - \* Dust
  - \* Sunlight
  - \* Heat
  - \* Extreme Cold
  - \* Excessive Moisture
  - \* Damaging Chemicals
  - \* Mechanical Damage
- [2] Respirators must be stored in a clean area which is not likely to be contaminated by the work in progress.
- [3] Respirators should not be hung from their headbands for prolonged periods of time.

SCBA Inspection and Checkout

- [1] Monthly Inspection
  - a. check cylinder label for current hydrostatic test date
  - b. inspect cylinder for large dent or gouges
  - c. inspect cylinder gauge for damage
  - d. complete routine inspection
  - e. fill out inspection documentation card
- [2] Routine Inspection
  - a. Pre-Operational
    - \* high-pressure hose connector is tight on cylinder fitting
    - \* by-pass valve is closed
    - \* mainline valve is closed
    - \* regulator outlet is not covered or obstructed
  - b. Backpack and Harness Assembly
    - \* inspect backpack/harness straps for wear, damage, secure
    - \* check wear and function of belts
    - \* check backplate and cylinder holder for damage
  - c. Cylinder and High Pressure Hose Assembly
    - \* check cylinder to insure firmly attached to backplate
    - \* open cylinder valve; listen or feel for leakage around packing and hose connection
    - \* check high pressure hose for damage or leaks
  - d. Regulator
    - \* cover regulator outlet with palm of hand
    - \* open mainline valve
    - \* remove hand from regulator outlet
    - \* open by-pass valve slowly to assure proper function
    - \* close by-pass valve
    - \* open mainline valve
    - \* note pressure reading on regulator gauge
    - \* close cylinder valve while keeping hand over regulator outlet



- \* slowly remove hand from outlet and allow air to flow
  - \* note pressure when low pressure warning alarm sounds; it should be 550-650 psi
  - \* close mainline valve
  - \* check regulator for leaks by blowing air into regulator for 5-10 seconds
  - \* draw air from outlet for 5-10 seconds
  - \* if a positive pressure or vacuum cannot be maintained, there is a leak.
- e. Facepiece & Corrugated Breathing Hose
- \* inspect head harness and facepiece for damage, serrations, and deteriorated rubber
  - \* inspect lens for damage and proper seal in facepiece
  - \* inspect exhalation valve for damage and dirt buildup
  - \* stretch breathing hose and carefully inspect for holes and deterioration
  - \* inspect connector for damage and presence of washer
  - \* perform negative pressure test with facepiece donned
- f. Storage
- \* refill cylinder to 2216 psi
  - \* close cylinder valve
  - \* tightly connect high pressure hose to cylinder
  - \* bleed pressure from high pressure hose by opening mainline valve
  - \* close by-pass valve
  - \* close mainline valve
  - \* fully extend all straps
  - \* store facepiece in a clean plastic bag for protection



**ATTACHMENT Z**

**SITE SPECIFIC TRAINING RECORD FORM**



SITE-SPECIFIC TRAINING RECORD

This is to advise that \_\_\_\_\_ conducted a Site-Specific Training  
(Instructor's name)

course for \_\_\_\_\_ at the  
(Company Name)

\_\_\_\_\_ project on \_\_\_\_\_  
(TO #, Project Name) (Date)

The total duration of the instructions was \_\_\_\_\_ hours.

Instruction covered the topics checked off below:

- Site Location, Description and History ☐
- Potential site hazards (chemical, physical, and biological) ☐
- Chemical, physical, and toxicological properties of site contaminants ☐
- Safe work practices ☐
- Training requirements ☐
- Medical Surveillance ☐
- Control Zones ☐
- Monitoring ☐
- Selection, use, and limitation, of personal protective equipment ☐
- Personnel and equipment decontamination ☐
- Emergency response procedures ☐
- Hazard communication ☐
- Blood borne pathogen briefing ☐

The following participant attended the training course for the full duration indicated above.

\_\_\_\_\_  
Name (Print)

\_\_\_\_\_  
Signature